

REMARKS

Applicant traverses the 35 U.S.C. § 112, first paragraph and second paragraph rejections of claims 1, 3, 6, 7, and 9-12. The claimed safety mechanism opening pressure of 1.5 MPa is supported by as-filed Fig. 8, and therefore is not new matter. Applicant has amended a typographical error in paragraph [0032], amending 0.15 MPa to read 1.5 MPa, in order to agree with as-filed Fig. 8.

Applicant also has deleted the term “approximately” from the claims with respect both to the claimed charging current and the claimed opening pressure, thereby overcoming the Examiner’s concerns with this term under both paragraphs of §112.

Applicant traverses the 35 U.S.C. § 103(a) rejection of claims 1, 3, and 6 over Nemoto (U.S. Patent Publication 2002/016554) in view of Maleki (U.S. Patent Publication 2002/0102455); and the 103(a) rejection of claims 7 and 9-12 over Nemoto in view of Inagaki (U.S. Patent 6,696,197), Maleki, and Liaw (U.S. Patent 6,437,542).

Neither Nemoto, Maleki, Inagaki, nor Liaw disclose or suggest at least a safety mechanism configured to be activated before an inside short-circuit occurs, and to discharge decomposition gas of the electrolytic solution, that is generated inside the lithium ion secondary battery body, to an outside of the battery when the battery is overcharged, wherein the safety mechanism is configured so that at a charging current of 50 amps and an opening pressure lower than 1.5 MPa, the safety mechanism is activated ten seconds or more before the inside short circuit occurs. Moreover, the amended claims recite regulating the amount of electrolytic solution provided into the lithium ion battery to prevent precipitation of lithium on the electrode. This feature of the claims is supported at paragraph [0034] of the specification, and is not new matter. This claim feature also is absent from the disclosure of Nemoto, Maleki, Inagaki, and Liaw,

alone and in combination, and these references, viewed alone or in combination, do not suggest this claim feature. Lacking at least these features of the claims, neither the combination of Nemoto and Maleki, nor the combination of Nemoto with the other cited references sets forth a *prima facie* case of obviousness. *In re Rouffet*, 149 F.3d 1350 (Fed. Cir. 1998).

At page 6, lines 8-11, the Examiner argues that the charging current and opening pressure features are functional language and an intended use. Applicant has amended claim 1 to recite that the safety mechanism is configured so that at a charging current of 50 amps and an opening pressure lower than 1.5 MPa, the safety mechanism is activated ten seconds or more before the inside short-circuit occurs. This claimed activation is a result of the claimed structure, not a mere capability, or intended use. Neither Nemoto nor Maleki disclose or suggest identical or similar structure.

On the issue of inherency, the Examiner has mischaracterized Applicant's arguments. The cited references do not disclose the same structure as recited in the claims, because they do not disclose a safety mechanism configured to activate ten seconds before an internal short circuit occurs, at a charging current of 50 amps and a pressure lower than 1.5 MPa. Lacking such a disclosure, there is no necessity that this claim feature will result from the disclosures of the references, only at best a possibility, which is insufficient to establish inherency. *Rosco, Inc. v. Mirror Lite Co.*, 304 F.3d 1373, 1380 (Fed. Cir. 2002).

Moreover, the Examiner contends that the electrolytic solution amount is a result-effective variable Office Action, page 9, lines 8-13, but the Examiner recognizes that neither of the references disclose regulation of the electrolytic solution amount. The

references also do not disclose regulation of the electrolytic solution so that lithium is not precipitated on the electrode. The claims do not recite a specific electrolytic solution amount. The claims recite an amount wherein a safety mechanism, configured to activate at a set charging current and operating pressure, activates ten seconds before an inside short-circuit occurs, and that the amount of electrolytic solution provided into the battery is regulated, so that lithium is not precipitated on the electrode. This is not a result-effective variable, and is non-obvious. A person of ordinary skill in the art, following the disclosure of Nemoto or Maleki, would first select an amount of electrolytic solution. On the contrary, as set forth in the claims, the electrolytic solution amount is selected based on the safety mechanism pressure, and to avoid lithium precipitation on the electrode.

The Examiner's arguments related to the burden of proof is immaterial. Applicant has recited in its claims structure related to the safety mechanism which is neither disclosed nor suggested by any of the cited references, alone or in combination. The § 103(a) rejections, therefore, are unsupported.

Applicant submits that entry of this amendment is proper in order to place the claims in condition for allowance or in better form for appeal.

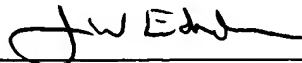
In view of the foregoing remarks, Applicant requests entry of this Amendment, the Examiner's reconsideration of the application, and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to Deposit Account 06-0916.

Respectfully submitted,

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